

2. *ELEMENTS OF ASTRÆA.*

Mr. Graham, of Mr. Cooper's Observatory at Markree, has deduced the following elements, omitting any consideration of disturbing forces:—

1846. Jan. 1	Mean Anom.	318° 55' 21".5	
	$\pi - \delta$	353 55 49.2	} Mean Equinox, 1846.0.
	δ	141 24 43.8	
	i	5 19 22.1	
	ϕ	10 45 57.7	
	Log. a	0.4107004	
	Log. n''	2.9339560	
	n''	858".9265	
	Sid. Rev. 1509 days.		

The places from which these elements are deduced, are,—

	Greenwich M.T.	R.A.	Dec.
1845. Dec.	17.460393	63° 22' 21".62	+12° 40' 18".29
1846. Feb.	8.053359	62 37 24.46	15 40 31.99
March	27.310391	77 59 41.13	+19 57 8.40

The first place is a mean of ten continental observations; the second is a mean of four meridian observations by Mr. Cooper, at Markree; the third, a single observation at Pulkawa.

3. *Elliptical Elements of DE VICO'S FOURTH COMET*
(Feb. 20, 1846), by Mr. Hind.

The following orbit is based upon the Altona and Hamburg Observations of March 12, and Hamburg, March 31 and April 18. There appears no doubt that the elements are really elliptical:—

Perihelion Passage, 1846, March 5.57777, Greenwich Mean Time.			
Longitude of Perihelion.....	90° 34' 45".79	} Mean Equinox, 1846.0.	
Longitude of Ascending Node	77 35 35.90		
Inclination	84 57 12.61		
Angle of Eccentricity.....	72 37 42.99		
Log. semi-axis major	1.8062261		
Sidereal Revolution 55.4 years.			
Motion direct.			

4. *Note on the FIRST COMET of BRORSEN, by Mr. Hind.*

"The comet discovered by Mr. Brorsen at Kiel, on the 26th of February last, has been found to have an elliptical orbit with a period of $5\frac{1}{2}$ years only. Independent calculations by Dr. Brünnow, M. Goujon, and myself, have led to nearly the same results as regards the short time of revolution. This circumstance induced me to examine the path of the comet through our system more minutely. Assuming the last set of elements calculated by Dr. Brünnow, and published in No. 557 of the *Astronomische Nach-*

richten, I soon found that a very close approach to the planet *Jupiter* must have occurred about the 20th of May, 1842: the comet at this time would be hardly further distant from *Jupiter* than the mean distance of his fourth satellite. The action of the planet would be more than ten times greater than that of the Sun; and it is very possible that a complete change might be produced in the elements of the comet's orbit. This encounter took place rather to the south of the plane of the ecliptic, in about $283\frac{1}{2}^\circ$ heliocentric longitude."

5. PETERS'S COMET (26th June, 1846).

On the 26th of June, Dr. C. H. F. Peters, of the Observatory of Capodimonte, found a very small comet in the constellation *Scorpius*, near 595 Mayer, and about one degree to the south of the nebula H. VI. 19, or 535 of *Smyth's Cycle*. The new object was quite as pale as the nebula, and somewhat rounder. The motion was perceptible at the end of an hour, when Dr. Peters commenced his observations with the Equatorial of Reichenbach. These were continued on following nights till stopped by moonlight. The following are the results corrected for refraction:—

1846.	Naples Sid. Time.	R.A.	Dec.	No. of Obs.
	^h ^m ^s			
June 26	17 24 4.0	226° 51' 31".4	—21° 38' 42".4	3
27	16 19 3.0	227 18 53.9	20 57 19.9	7
28	17 2 18.0	227 49 20.2	20 14 19.8	4
29	16 48 45.6	228 19 3.8	19 33 4.3	6
30	17 53 10.3	228 48 48.3	18 50 36.0	5
July 1	18 24 25.7	229 19 15.9	18 10 37.4	5
11	16 57 24.8	234 5 53.5	12 31 31.1	2
12	17 19 34.1	234 33 39.8	12 2 18.7	4
13	17 18 29.1	235 2 16.3	11 34 45.7	4
14	17 6 56.8	235 29 45.7	11 8 19.7	4
15	17 39 10.5	235 59 18.8	10 40 10.3	3
16	17 19 26.3	236 26 47.1	10 16 1.4	5
17	17 31 47.6	236 55 9.8	9 50 33.5	4
18	17 43 22.4	237 26 5.3	9 27 23.5	4
19	17 41 14.2	237 52 22.4	9 3 53.1	4
21	17 51 58.3	238 47 28.0	—8 19 12.3	3

It was seen on the 23d July, but it was too faint to be observed.

Upon these observations Dr. Peters has calculated the following elements, taking into account all small corrections (*Parall. Aberr. Nutat.*)

Perihelion Passage 1846, May 30, ^h ^m ^s 12 56 3.0, Berlin M.T.

Perih. 237° 20' 28".2 } Mean Equinox,
 Ω 258 45 12.6 } July 1.

i 34 0 41.7

Log. *q* 0.204635

Motion Direct.